

This section provides a discussion of the project's effect on greenhouse gas (GHG) emissions and the associated effects of climate change. The reader is referred to Section 4.2, Air Quality, for a discussion of project impacts associated with air quality.

### 4.6.1 EXISTING SETTING

Since the early 1990s, scientific consensus holds that the world's population is releasing GHGs faster than the earth's natural systems can absorb them. These gases are released as byproducts of fossil fuel combustion, waste disposal, energy use, land use changes, and other human activities. This release of gases, such as carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), and nitrous oxide (N<sub>2</sub>O), creates a blanket around the earth that allows light to pass through but traps heat at the surface, preventing its escape into space. While this is a naturally occurring process known as the greenhouse effect, human activities have accelerated the generation of GHGs beyond natural levels. The overabundance of GHGs in the atmosphere has led to a warming of the earth and has the potential to severely impact the earth's climate system.

While often used interchangeably, there is a difference between the terms *climate change* and *global warming*. According to the National Academy of Sciences, climate change refers to any significant, measurable change of climate lasting for an extended period of time that can be caused by both natural factors and human activities. Global warming, on the other hand, is an average increase in the temperature of the atmosphere caused by increased GHG emissions. Use of the term *climate change* is becoming more prevalent because it encompasses all changes to the climate, not just temperature.

To fully understand global climate change, it is important to recognize the naturally occurring greenhouse effect and to define the GHGs that contribute to this phenomenon. Various gases in the earth's atmosphere, classified as atmospheric GHGs, play a critical role in determining the earth's surface temperature. Solar radiation enters the earth's atmosphere from space and a portion of the radiation is absorbed by the earth's surface. The earth emits this radiation back toward space, but the properties of the radiation change from high-frequency solar radiation to lower-frequency infrared radiation. Greenhouse gases, which are transparent to solar radiation, are effective in absorbing infrared radiation. As a result, this radiation that would have otherwise escaped back into space is now retained, resulting in a warming of the atmosphere. This phenomenon is known as the greenhouse effect.

Among the prominent GHGs contributing to the greenhouse effect are CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O. **Table 4.6-1** provides descriptions of the primary GHGs attributed to global climate change, including a description of their physical properties, primary sources, and contribution to the greenhouse effect.

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**TABLE 4.6-1  
GREENHOUSE GASES**

Greenhouse Gas	Description
Carbon Dioxide (CO <sub>2</sub> )	Carbon dioxide is a colorless, odorless gas. CO <sub>2</sub> is emitted in a number of ways, both naturally and through human activities. The largest source of CO <sub>2</sub> emissions globally is the combustion of fossil fuels such as coal, oil, and gas in power plants, automobiles, industrial facilities, and other sources. A number of specialized industrial production processes and product uses such as mineral production, metal production, and the use of petroleum-based products can also lead to CO <sub>2</sub> emissions. The atmospheric lifetime of CO <sub>2</sub> is variable because it is so readily exchanged in the atmosphere. <sup>1</sup>
Methane (CH <sub>4</sub> )	Methane is a colorless, odorless gas and is the major component of natural gas, about 87 percent by volume. It is also formed and released to the atmosphere by biological processes occurring in anaerobic environments. Methane is emitted from a variety of both human-related and natural sources. Human-related sources include fossil fuel production, animal husbandry (intestinal fermentation in livestock and manure management), rice cultivation, biomass burning, and waste management. These activities release significant quantities of CH <sub>4</sub> to the atmosphere. Natural sources of CH <sub>4</sub> include wetlands, gas hydrates, permafrost, termites, oceans, freshwater bodies, non-wetland soils, and other sources such as wildfires. The atmospheric lifetime of CH <sub>4</sub> is about 12 years. <sup>2</sup>
Nitrous Oxide (N <sub>2</sub> O)	Nitrous oxide is a clear, colorless gas with a slightly sweet odor. Nitrous oxide is produced by both natural and human-related sources. Primary human-related sources of N <sub>2</sub> O are agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuels, adipic acid production, and nitric acid production. Nitrous oxide is also produced naturally from a wide variety of biological sources in soil and water, particularly microbial action in wet tropical forests. The atmospheric lifetime of N <sub>2</sub> O is approximately 120 years. <sup>3</sup>

Sources: <sup>1</sup> EPA 2011a, <sup>2</sup> EPA 2011b, <sup>3</sup> EPA 2010

Each GHG differs in its ability to absorb heat in the atmosphere based on the lifetime, or persistence, of the gas molecule in the atmosphere. Methane traps over 25 times more heat per molecule than CO<sub>2</sub>, and N<sub>2</sub>O absorbs 298 times more heat per molecule than CO<sub>2</sub>. Often, estimates of GHG emissions are presented in carbon dioxide equivalents (CO<sub>2</sub>e), which weigh each gas by its global warming potential (GWP). Expressing GHG emissions in CO<sub>2</sub>e takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO<sub>2</sub> were being emitted.

As the name implies, global climate change is a global problem. Greenhouse gases are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are pollutants of regional and local concern, respectively. California is a significant emitter of CO<sub>2</sub>e in the world and produced 459 million gross metric tons of CO<sub>2</sub>e in 2012 (CARB 2014a). Consumption of fossil fuels in the transportation sector was the single largest source of California's GHG emissions in 2010, accounting for 36 percent of total GHG emissions in the state (CARB 2014a). This category was followed by the electric power sector (including both in-state and out-of-state sources) (21 percent) and the industrial sector (19 percent) (CARB 2014a).

### EFFECTS OF GLOBAL CLIMATE CHANGE

California can draw on substantial scientific research conducted by experts at various universities and research institutions. With more than a decade of concerted research, scientists have established that the early signs of climate change are already evident in the state—as shown, for example, in increased average temperatures, changes in temperature extremes, reduced snowpack in the Sierra Nevada, sea level rise, and ecological shifts.

Many of these changes are accelerating locally, across the country, and around the globe. As a result of emissions already released into the atmosphere, California will face intensifying climate change in coming decades (CNRA 2009). Generally, research indicates that California should expect overall hotter and drier conditions, with a continued reduction in winter snow (with concurrent increases in winter rains), as well as increased average temperatures and accelerating sea-level rise. In addition to changes in average temperatures, sea level, and precipitation patterns, the intensity of extreme weather events is also changing (CNRA 2009).

Climate change temperature projections identified in the 2009 California Climate Adaptation Strategy suggest the following:

- Average temperature increase is expected to be more pronounced in the summer than in the winter season.
- Inland areas are likely to experience more pronounced warming than coastal regions.
- Heat waves are expected to increase in frequency, with individual heat waves also showing a tendency toward becoming longer and extending over a larger area, thus more likely to encompass multiple population centers in California at the same time.
- Because GHGs remain in the atmosphere for decades, temperature changes over the next 30 to 40 years are already largely determined by past emissions. By 2050, temperatures are projected to increase by an additional 1.8 to 5.4°F (an increase one to three times as large as that which occurred over the entire twentieth century).
- By 2100, the models project temperature increases between 3.6 and 9°F. (CNRA 2009)

According to the 2009 California Climate Adaptation Strategy, the impacts of climate change in California have the potential to include but are not limited to the areas discussed in **Table 4.6-2**.

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**TABLE 4.6-2**  
**POTENTIAL STATEWIDE IMPACTS FROM CLIMATE CHANGE**

Potential Statewide Impact	Description
Public Health	Climate change is expected to lead to an increase in ambient (i.e., outdoor) average air temperature, with greater increases expected in summer. Larger temperature increases are anticipated in inland communities as compared to the California coast. The potential health impacts from sustained and significantly higher than average temperatures include heat stroke, heat exhaustion, and the exacerbation of existing medical conditions such as cardiovascular and respiratory diseases, diabetes, nervous system disorders, emphysema, and epilepsy. Numerous studies have indicated that there are generally more deaths during periods of sustained higher temperatures. The elderly, infants, and socially isolated people with pre-existing illnesses who lack access to air conditioning or cooling spaces are among the most at risk during heat waves.
Floods and Droughts	<p>The impacts of flooding may include population displacement, severe psychosocial stress with resulting mental health impacts, exacerbation of pre-existing chronic conditions, and infectious disease. Additionally, impacts can range from a loss of personal belongings, and the emotional ramifications from such loss, to direct injury and/or mortality.</p> <p>Drinking water contamination outbreaks in the United States are associated with extreme precipitation events. Runoff from rainfall is also associated with coastal contamination that can lead to contamination of shellfish and contribute to food-borne illness. Floodwaters may contain household, industrial, and agricultural chemicals, as well as sewage and animal waste. Flooding and heavy rainfall events can wash pathogens and chemicals from contaminated soils, farms, and streets into drinking water supplies. Flooding may also overload storm and wastewater systems, or flood septic systems, also leading to possible contamination of drinking water systems.</p> <p>Drought impacts develop more slowly over time. Risks to public health that Californians may face from drought include impacts on water supply and quality, food production (both agricultural and commercial fisheries), and risks of waterborne illness. As surface water supplies are reduced as a result of drought conditions, the amount of groundwater pumping is expected to increase to make up for the water shortfall. The increase in groundwater pumping has the potential to lower the water tables and cause land subsidence. Communities that utilize well water will be adversely affected by drops in water tables or through changes in water quality. Groundwater supplies have higher levels of total dissolved solids compared to surface waters. This introduces a set of effects for consumers, such as repair and maintenance costs associated with mineral deposits in water heaters and other plumbing fixtures, and on public water system infrastructure designed for lower salinity surface water supplies. Drought may also lead to increased concentration of contaminants in drinking water supplies.</p>
Water Resources	The state's water supply system already faces challenges to provide water for California's growing population. Climate change is expected to exacerbate these challenges through increased temperatures and possible changes in precipitation patterns. The trends of the last century, especially increases in hydrologic variability, will likely intensify in this century. The state can expect to experience more frequent and larger floods and deeper droughts. Rising sea level will threaten the Delta water conveyance system and increase salinity in near-coastal groundwater supplies.
Forests and Landscapes	Global climate change has the potential to intensify the current threat to forests and landscapes by increasing the risk of wildfire and altering the distribution and character of natural vegetation. If temperatures rise into the medium warming range, wildfire occurrence statewide could increase from 57 to 169 percent by 2085. However, since wildfire risk is determined by a combination of factors, including precipitation, winds, temperature, and landscape and vegetation conditions, future risks will not be uniform throughout the state.

Source: CNRA 2009

### **4.6.2 REGULATORY FRAMEWORK**

#### **FEDERAL**

##### **Supreme Court Ruling of Carbon Dioxide as a Pollutant**

The US Environmental Protection Agency (EPA) is the federal agency responsible for implementing the federal Clean Air Act (CAA) and its amendments. The Supreme Court of the United States ruled on April 2, 2007, that CO<sub>2</sub> is an air pollutant as defined under the CAA and that the EPA has the authority to regulate emissions of greenhouse gases. The ruling in this case resulted in the EPA taking steps to regulate GHG emissions and lent support for state and local agencies' efforts to reduce GHG emissions.

##### **National Program to Cut Greenhouse Gas Emissions and Improve Fuel Economy for Cars and Trucks**

On August 28, 2014, the EPA and the Department of Transportation's National Highway Traffic Safety Administration (NHTSA) finalized a new national program that would reduce GHG emissions and improve fuel economy for all new cars and trucks sold in the United States (NHTSA 2012). The EPA proposed the first-ever national GHG emissions standards under the CAA, and the NHTSA proposed Corporate Average Fuel Economy (CAFE) standards under the Energy Policy and Conservation Act. This proposed national program allows automobile manufacturers to build a single light-duty national fleet that satisfies all requirements under both federal programs and the standards of California and other states. While this program will increase fuel economy to the equivalent of 54.5 miles per gallon (mpg) for cars and light-duty trucks by model year 2025, the NHTSA and the EPA are developing additional phases that address greenhouse gas emission standards for new medium- and heavy-duty trucks (NHTSA 2015).

#### **STATE**

California has adopted various administrative initiatives and legislation relating to climate change, much of which set aggressive goals for GHG emissions reductions in the state. Although lead agencies must evaluate climate change and greenhouse gas emissions of projects subject to the California Environmental Quality Act (CEQA), the CEQA Guidelines do not require or suggest specific methodologies for performing an assessment or specific thresholds of significance and do not specify GHG reduction mitigation measures. Instead, the guidelines allow lead agencies to choose methodologies and make significance determinations based on substantial evidence, as discussed in further detail below. In addition, no state agency has promulgated binding regulations for analyzing GHG emissions, determining their significance, or mitigating significant effects in CEQA documents. Thus, lead agencies exercise their discretion in determining how to analyze GHGs.

##### **California Global Warming Solutions Act (Assembly Bill 32)**

The primary acts that have driven GHG regulation and analysis in California include the California Global Warming Solutions Act of 2006 (AB 32) (Health and Safety Code Sections 38500, 38501, 28510, 38530, 38550, 38560, 38561–38565, 38570, 38571, 38574, 38580, 38590, 38592–38599), which instructs the California Air Resources Board (CARB) to develop and enforce regulations for the reporting and verifying of statewide GHG emissions. The act directed CARB to set a greenhouse gas emissions limit based on 1990 levels, to be achieved by 2020. The bill set a timeline for adopting a scoping plan for achieving GHG reductions in a technologically and economically feasible

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manner. The heart of the bill is the requirement that statewide GHG emissions be reduced to 1990 levels by 2020.

### AB 32 Scoping Plan

CARB adopted the Scoping Plan to achieve the goals of Assembly Bill (AB) 32. The Scoping Plan establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions. CARB determined that achieving the 1990 emissions level would require a reduction of GHG emissions of approximately 29 percent below what would otherwise occur in 2020 in the absence of new laws and regulations (referred to as "business as usual" and/or "No Action Taken"). The Scoping Plan evaluates opportunities for sector-specific reductions, integrates all CARB and Climate Action Team early actions and additional GHG reduction measures by both entities, identifies additional measures to be pursued as regulations, and outlines the role of a cap-and-trade program. Additional development of these measures and adoption of the appropriate regulations occurred through the end of year 2013. Key elements of the Scoping Plan include:

- Expanding and strengthening existing energy efficiency programs, as well as building and appliance standards.
- Achieving a statewide renewables energy mix of 33 percent.
- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system and caps sources contributing 85 percent of California's GHG emissions.
- Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets.
- Adopting and implementing measures pursuant to existing state laws and policies, including California's clean car standards, heavy-duty truck measures, and the Low Carbon Fuel Standard.
- Creating targeted fees, including a public goods charge on water use, fees on high global warming potential gases, and a fee to fund the administrative costs of the State of California's long-term commitment to AB 32 implementation (CARB 2008).

In 2012, CARB released revised estimates of the expected 2020 emissions reductions. The revised analysis relies on emissions projections updated in light of current economic forecasts that account for the economic downturn since 2008, reduction measures already approved and put in place relating to future fuel and energy demand, and other factors. This reduced the projected 2020 emissions from 596 million metric tons (MMT) CO<sub>2</sub>e to 545 MMTCO<sub>2</sub>e. The reduction in projected 2020 emissions means that the revised No Action Taken (NAT) reduction necessary to achieve AB 32's goal of reaching 1990 levels by 2020 is now 21.7 percent. CARB also provided a lower 2020 inventory forecast that incorporated State-led GHG emissions reduction measures already in place. When this lower forecast is considered, the necessary reduction from NAT needed to achieve the goals of AB 32 is approximately 16 percent.

AB 32 requires CARB to update the Scoping Plan at least once every five years. CARB adopted the first major update to the Scoping Plan on May 22, 2014. The updated Scoping Plan summarizes the most recent science related to climate change, including anticipated impacts to California and the levels of GHG reduction necessary to likely avoid risking irreparable damage. It identifies the actions California has already taken to reduce GHG emissions and focuses on areas where

further reductions could be achieved to help meet the 2020 target established by AB 32. The Scoping Plan update also looks beyond 2020 toward the 2050 goal established in Executive Order S-3-05, though not yet adopted as state law (though currently under consideration as part of proposed Senate Bill 32), and observes that “a mid-term statewide emission limit will ensure that the State stays on course to meet our long-term goal.” The Scoping Plan update does not establish or propose any specific post-2020 goals, but identifies such goals adopted by other governments or recommended by various scientific and policy organizations. **Table 4.6-3** provides a brief overview of the other California legislation relating to climate change that may affect the emissions associated with the proposed project.

### California Executive Orders

In addition to the legislation identified in **Table 4.6-3**, two Executive Orders, California Executive Order 5-03-05 (2005) and California Executive Order B-30-15 (2015), highlight GHG emissions reduction targets, though such targets have not been adopted by the State and remain only a goal of the Executive Orders. Specifically, Executive Order 5-03-05 seeks to achieve a reduction of GHG emissions of 80 percent below 1990 levels by 2050 and Executive Order B-30-15 seeks to achieve a reduction of GHG emissions of 40 percent below 1990 levels by 2030. Technically, a governor's Executive Order does not have the effect of new law but can only reinforce existing laws. For instance, as a result of the AB 32 legislation, the State's 2020 reduction target is backed by the adopted AB 32 Scoping Plan, which provides a specific regulatory framework of requirements for achieving the 2020 reduction target. The State-led GHG reduction measures identified in **Table 4.6-3**, such as the Low Carbon Fuel Standard and the Renewables Portfolio Standard, are largely driven by the AB 32 Scoping Plan. Executive Orders S-03-05 and B-30-15 do not have any such framework and therefore provide no specific emissions reduction mechanisms.

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**TABLE 4.6-3  
CALIFORNIA STATE CLIMATE CHANGE LEGISLATION**

<b>Legislation</b>	<b>Description</b>
Assembly Bill 1493 and Advanced Clean Cars Program	Assembly Bill 1493 (the Pavley Standard) (Health and Safety Code Sections 42823 and 43018.5) aims to reduce GHG emissions from noncommercial passenger vehicles and light-duty trucks of model years 2009–2016. By 2025, when all rules will be fully implemented, new automobiles will emit 34 percent fewer CO <sub>2e</sub> emissions and 75 percent fewer smog-forming emissions.
Low Carbon Fuel Standard (LCFS)	Executive Order S-01-07 (2007) requires a 10 percent or greater reduction in the average fuel carbon intensity for transportation fuels in California. The regulation took effect in 2010 and is codified at Title 17, California Code of Regulations Sections 95480–95490. The LCFS will reduce greenhouse gas emissions by reducing the carbon intensity of transportation fuels used in California by at least 10 percent by 2020.
Renewables Portfolio Standard (Senate Bill X1-2 & Senate Bill 350)	California's Renewables Portfolio Standard (RPS) requires retail sellers of electric services to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020. The 33 percent standard is consistent with the RPS goal established in the Scoping Plan. The passage of Senate Bill 350 in 2015 updates the RPS to require the amount of electricity generated and sold to retail customers per year from eligible renewable energy resources to be increased to 50 percent by December 31, 2030. The bill would make other revisions to the RPS Program and to certain other requirements on public utilities and publicly owned electric utilities.
Senate Bill 375*	Senate Bill (SB) 375 (codified in the Government Code and the Public Resources Code) took effect in 2008 and provides for a new planning process to coordinate land use planning, regional transportation plans, and funding priorities in order to help California meet the GHG reduction goals established in AB 32. SB 375 requires metropolitan planning organizations (MPOs) to incorporate a Sustainable Communities Strategy in their Regional Transportation Plans that will achieve GHG emissions reduction targets by reducing vehicle miles traveled from light-duty vehicles through the development of more compact, complete, and efficient communities.
California Building Energy Efficiency Standards	In general, the California Building Energy Efficiency Standards require the design of building shells and building components to conserve energy. The California Energy Commission adopted changes to the 2013 Building Energy Efficiency Standards contained in the California Code of Regulations, Title 24, Part 6 (also known as the California Energy Code) and associated administrative regulations in Part 1. The amended standards took effect in the summer of 2014. The 2013 Building Energy Efficiency Standards are 25 percent more efficient than previous standards for residential construction and 30 percent better for nonresidential construction. The standards offer builders better windows, insulation, lighting, ventilation systems, and other features that reduce energy consumption in homes and businesses. Energy-efficient buildings require less electricity; and increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions.
California Green Building Standards	The California Green Building Standards Code (California Code of Regulations, Title 24, Part 11), commonly referred to as the CALGreen Code, is a statewide mandatory construction code that was developed and adopted by the California Building Standards Commission and the Department of Housing and Community Development. The CALGreen standards require new residential and commercial buildings to comply with mandatory measures under the topics of planning and design, energy efficiency, water efficiency/conservation, material conservation and resource efficiency, and environmental quality. CALGreen also provides voluntary tiers and measures that local governments may adopt that encourage or require additional measures in the five green building topics. The most recent update to the CALGreen Code went into effect July 1, 2014.

\* Senate Bill 375 is codified at Government Code Sections 65080, 65400, 65583, 65584.01, 65584.02, 65584.04, 65587, 65588, 14522.1, 14522.2, and 65080.01, as well as at Public Resources Code Sections 21061.3 and 21159.28 and Chapter 4.2.



**LOCAL****Placer County Air Pollution Control District**

The project is under the jurisdiction of the Placer County Air Pollution Control District (PCAPCD), which regulates air quality according to the standards established in the federal and California Clean Air Acts and amendments to those acts. The PCAPCD has not established a standard of significance for construction or operational related GHG emissions. However, the district does have a substantial amount of information to support a lead agency's effort in analyzing GHG impacts (PCAPCD 2012).

**4.6.3 IMPACTS AND MITIGATION MEASURES****STANDARDS OF SIGNIFICANCE**

The impact analysis provided below is based on the application of the following CEQA Guidelines Appendix G thresholds of significance. Climate change impacts are considered significant if implementation of the proposed project would:

- 1) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
- 2) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Addressing GHG generation impacts requires an agency to make a determination as to what constitutes a significant impact. The amendments to the CEQA Guidelines specifically allow lead agencies to determine thresholds of significance that illustrate the extent of an impact and are a basis from which to apply mitigation measures. This means that each agency is left to determine whether a project's GHG emissions will have a "significant" impact on the environment. The guidelines direct that agencies are to use "careful judgment" and "make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate" the project's GHG emissions (14 California Code of Regulations Section 15064.4(a)).

The assessment of GHG emissions provided below is based partially on guidance from the PCAPCD. The PCAPCD, in association with a committee of air districts in the Sacramento region, has developed GHG thresholds in order to provide a uniform scale to measure the significance of land use development projects in its jurisdiction. These thresholds are intended to evaluate a project for consistency with GHG targets established in AB 32, particularly for emissions occurring by 2020. The term "No Action Taken" (NAT) is used here to reflect conditions, including regulations, in place when GHG reduction targets were established by CARB; CARB evaluated potential GHG in 2020 if no actions were taken and determined the level of reduction that would be needed to attain 2020 targets.

- For the evaluation of construction-related emissions, the PCAPCD recommends using the mass emission threshold of 1,100 metric tons of CO<sub>2</sub>e per year.
- For the evaluation of operational emission, the PCAPCD recommends a two-tier approach:
  - Tier I. Operational emissions of a project would not have a significant impact on the environment if they are less than 1,100 metric tons of CO<sub>2</sub>e per year, and

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- Tier II. Projects with operational emissions that exceed 1,100 metric tons of CO<sub>2</sub>e per year, but are able to demonstrate a 21.7 percent reduction from a “No Action Taken” scenario compared to the proposed project operating in 2020 would not conflict with CARB’s Scoping Plan.

Tier II is known as a performance-based threshold. Performance-based thresholds rely on a percentage reduction from a projected future condition. For example, reducing future “No Action Taken” emissions by 21.7 percent through project design features (e.g., renewable energy) or mitigation. After the PCAPCD, in association with a committee of air districts in the Sacramento region, developed their Tier II GHG threshold, the California Supreme Court decided *Center for Biodiversity et al. v. California Department of Fish and Wildlife* (S217763) (hereafter *Newhall Ranch*) on November 30, 2015, addressing the issue of how GHG analysis is to be conducted. In its decision, the Court invalidated the *Newhall Ranch* EIR in part because the GHG analysis incorrectly applied the “Business As Usual” (also known as “No Action Taken”) threshold for analysis. Although the decision confirmed use of No Action Taken and consistency with AB 32 as a valid significance threshold under CEQA, the Court found that the *Newhall Ranch* EIR lacked substantial evidence in demonstrating that the project’s reduction of 31 percent below the No Action Taken scenario is consistent with the AB 32 statewide goal. The Court held that applying statewide No Action Taken targets that were developed for the entire state (which consider both existing and new development) to a project-level analysis without any adjustments to isolate new development emissions or consider unique geographic conditions is misleading and not consistent with the AB 32 Scoping Plan’s original design.

Therefore, while the *Newhall Ranch* decision upheld the use of performance reductions based on AB 32, the Court stated that applying statewide No Action Taken targets, which consider both existing and new development, to project-level analyses without any adjustments to isolate new development emissions or consider unique geographic conditions could be misleading and therefore requires further justification. While using No Action Taken targets, including the PCAPCD threshold of 21.7 percent, is generally consistent with CEQA, substantial evidence is required to demonstrate that a project, in its local setting, is consistent with broad goals for the entire state. Neither the PCAPCD performance threshold nor other performance-based targets adopted by expert agencies have disaggregated new development emissions on a percentage basis to satisfy this new requirement imposed by the Court. The primary value of a performance-based target, as indicated in the *Newhall Ranch* decision, is that it can provide a scenario by which to evaluate the effectiveness of a project’s efficiency and conservation measures to reduce GHG emissions. Accordingly, use of the draft performance threshold (21.7 percent below No Action Taken) is not a viable threshold approach for the proposed project.

The *Newhall Ranch* decision affirmed the use of numeric “bright-line” thresholds, but noted that their use does not relieve the lead agency of its duty to determine the significance of an impact independently. The *Newhall Ranch* decision cites the Bay Area Air Quality Management District’s (BAAQMD) bright-line 1,100 metric ton CO<sub>2</sub>e threshold as an example of a numeric threshold to assist in determining the significance of GHG emissions. The regional threshold guidance adopted (in part) by SMAQMD and utilized by PCAPCD established the 1,100 metric ton threshold for the region. This bright-line threshold identified is based on a capture rate and a gap analysis, which is tied back to AB 32 reduction targets (1990 levels by 2020). The thresholds reflect regional land use conditions. This threshold is consistent with the BAAQMD’s bright-line thresholds referenced in the *Newhall Ranch* decision.

Therefore, for the purposes of this analysis, the proposed project will be compared to the PCAPCD construction-level significance threshold of 1,100 metric tons of CO<sub>2</sub>e per year and operational-level significance Tier I threshold of 1,100 metric tons of CO<sub>2</sub>e per year as the project is expected to be constructed prior to the year 2020. Compliance with these thresholds, which are intended

to evaluate a project for consistency with GHG targets established in AB 32, will be part of the solution to the cumulative GHG emissions problem, rather than hinder the State's ability to meet its goals of reduced statewide GHG emissions under AB 32. In the case that estimated project emissions fall below these thresholds, it will be considered less than significant in terms of its contribution to GHG emissions. In the case that estimated project emissions surpass these threshold, the project will be considered significant.

### METHODOLOGY

GHG emissions of the proposed project were calculated using the California Emissions Estimator Model (CalEEMod), a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential greenhouse gas emissions associated with construction and operations from a variety of land use projects. Project-generated increases in GHG emissions would be predominantly associated with motor vehicle use. The increase of traffic over existing conditions as a result of the project was obtained from LSC Transportation Consultants (2015) (see **Appendix 4.6**). Because the impacts of GHG emissions are not experienced locally, the focus of the climate change analysis is on the project's potential contributions to the cumulative impact.

### IMPACTS AND MITIGATION MEASURES

#### Generate Greenhouse Gas Emissions That May Have a Significant Impact on the Environment in the Year 2020 (Standards of Significance 1 and 2)

**Impact 4.6.1** The project would generate greenhouse gas emissions in the year 2020. The project's contribution would be **less than cumulatively considerable**.

The project's GHG emissions would be generated over the short term from construction activities, consisting primarily of emissions from equipment exhaust. There would also be long-term regional emissions associated with new vehicular trips and indirect source emissions, such as electricity usage for lighting.

#### Construction GHG Emissions

The approximate quantity of annual GHG emissions generated by construction activities is shown in **Table 4.6-4**. In addition, the one-time release of CO<sub>2</sub> associated with the proposed removal of trees on-site is also accounted for in the first year of construction.

**TABLE 4.6-4**  
**CONSTRUCTION-RELATED GREENHOUSE GAS EMISSIONS (METRIC TONS PER YEAR)**

Construction Activities	Metric Tons of CO <sub>2</sub> e
Year One	848
Year Two	183
PCAPCD Potentially Significant Impact Threshold	1,100
<b>Exceed PCAPCD Threshold?</b>	<b>No</b>

Source: CalEEMod version 2013.2.2. See **Appendix 4.6** for emission model outputs.

Notes: Building construction, paving, and painting assumed to occur simultaneously. Construction worker commutes are derived from the Transportation Impact Analysis (LSC 2015). Year one emission projections account for the removal of trees on-site.

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As shown, construction would generate approximately 848 metric tons of CO<sub>2</sub>e during the first year of construction and approximately 183 metric tons of CO<sub>2</sub>e during the second year. Therefore, emissions would not exceed PCAPCD significance thresholds for construction-generated GHG emissions.

### Operational GHG Emissions

The proposed project is compared to the emissions reductions goals of the PCAPCD greenhouse gas significance thresholds. The project's long-term operational emissions are summarized in **Table 4.6-5**.

**TABLE 4.6-5**  
**OPERATIONAL-RELATED GREENHOUSE GAS EMISSIONS (METRIC TONS PER YEAR)**

Emissions Source	CO <sub>2</sub> e
Area Source (landscaping, hearth) <sup>1</sup>	58
Energy <sup>2</sup>	288
Mobile <sup>3</sup>	641
Solid Waste Hauling & Decomposition	25
Water Conveyance <sup>2</sup>	21
<b>Total</b>	<b>1,033</b>
PCAPCD Potentially Significant Impact Threshold	1,100
<b>Exceed PCAPCD Threshold?</b>	<b>No</b>

Source: CalEEMod version 2013.2.2. See **Appendix 4.6** for emission model outputs.

Notes:

1. Area source emissions account for mitigation that prohibits wood-burning devices.
2. Indirect energy emissions account for CALGreen standards and the Renewables Portfolio Standard year 2020 target.
3. Trip generation rates are derived from the Transportation Impact Analysis (LSC 2015). Emissions projections account for project components including proximity to a bus stop and pedestrian and bicycle facility enhancements. Emissions projections account for improved CAFÉ standards (Pavley I) and Low Carbon Fuel Standards.

As shown, operation of the proposed project would generate approximately 1,033 metric tons of CO<sub>2</sub>e annually. Therefore, emissions would not exceed PCAPCD significance thresholds for operational greenhouse gas emissions in the year 2020.

The proposed project would contribute GHG emissions during both construction and operation at levels that are below PCAPCD significance thresholds. These thresholds are intended to evaluate a project for consistency with GHG targets established in AB 32, which were established particularly for emissions occurring by 2020. Compliance with PCAPCD thresholds will be part of the solution to the cumulative GHG emissions problem, rather than hinder the State's ability to meet its goals of reduced statewide GHG emissions under AB 32. Therefore, the project's contribution would be **less than cumulatively considerable**.

### Mitigation Measures

None required.

### REFERENCES

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## **4.6 GREENHOUSE GAS EMISSIONS**

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